BEEF Basics . . .
All you really need to know about beef !

Joe Mancini

Emily Prior

Thanks to Quantum Foods, Bolingbrook, IL

Agenda

Introduction
Inspection versus Grading
Why is that beef tough ? Or tender?
Where on the cow does that come from?
How do we cook it, and why does that matter?
Let’s Talk Ground Beef !
Nutritional Impacts – Good news!
Handling Beef
Cooking it right !
How does beef meet the services’ menu requirer
New menu ideas

Meat Inspection and Grading
What's the Difference?

For meat inspection – think <u>wholesomeness</u>

Paid for by taxes

- **Meat is from healthy animals**
- **Processed under sanitary conditions**
- **Is safe to eat**

For grading – think <u>quality</u>

Voluntary – Paid for by meat processors

- **US Department of Agriculture inspectors**
- **Standards established by USDA**
- **Based on age of animal and amount of mar**

GRADING CATTLE

-Quality and Yield Grade
- **PRIME (3 % of all cattle)**
- **Top Choice (CAB never higher than this)**
- **Low Choice**
- **Select**
- **Standard**
- **Dark Cutter**

-Note: If a cow is black-hided, assume they have s
-Only place to get black hides is from Angus. To b
CAB, cow must be at least 50% Angus with no dair

BEEF GRADING

QUALITY GRADE	Steers/Heifers	Cows	Bullocks	Bulls
U.S. Prime	●		●	
U.S. Choice	●	●	●	
U.S. Select	●	●	●	
U.S. Standard	●	●	●	
U.S. Commercial	●	●		
U.S. Utility	●	●	●	
U.S. Cutter	●	●		
U.S. Canner	●	●		

Test question: What is a heifer?

Cutability (Yield Grade)

YG 1 - leanest
YG 2A (2.0 – 2.5)
YG 2B (2.6 – 2.9)
YG 3A (3.0 – 3.5)
YG 3B (3.6 – 3.9)
YG 4
YG 5 - fattest

Yield Grading

Fat thickness (average 3= .1 – 1.5 inches)
Carcass weight
Ribeye area
Average KPH fat as a percent of carcass weig
(average 2.0%)
Dressing percent: National average .635 X weight in pounds

NOT MARBLING !!

QUALITY

- Fat thickness
- Maturity
- Days on Feed
- Breed Type

More than its hide holds that cow togeth

- Connective tissue
  - What does it do?
    - Holds together bundles of muscle cells
    - Connects to bones
    - Organizes muscle cell responses (permit
      work to be done by the animal)
  - How much is present in each muscle?
    - What job is done by the muscle
    - How much work did that muscle do duri
the animal’s life
    - The genetic heritage of the animal

Connective Tissues

White or pale yellow

Made up of two proteins

-- Elastin – elastic, chewy, hard to so

-- Collagen – softens into gelatin wh

cooked in the presence of mois

SO WHAT? WHO CARE

TENDERIZATION METHODS

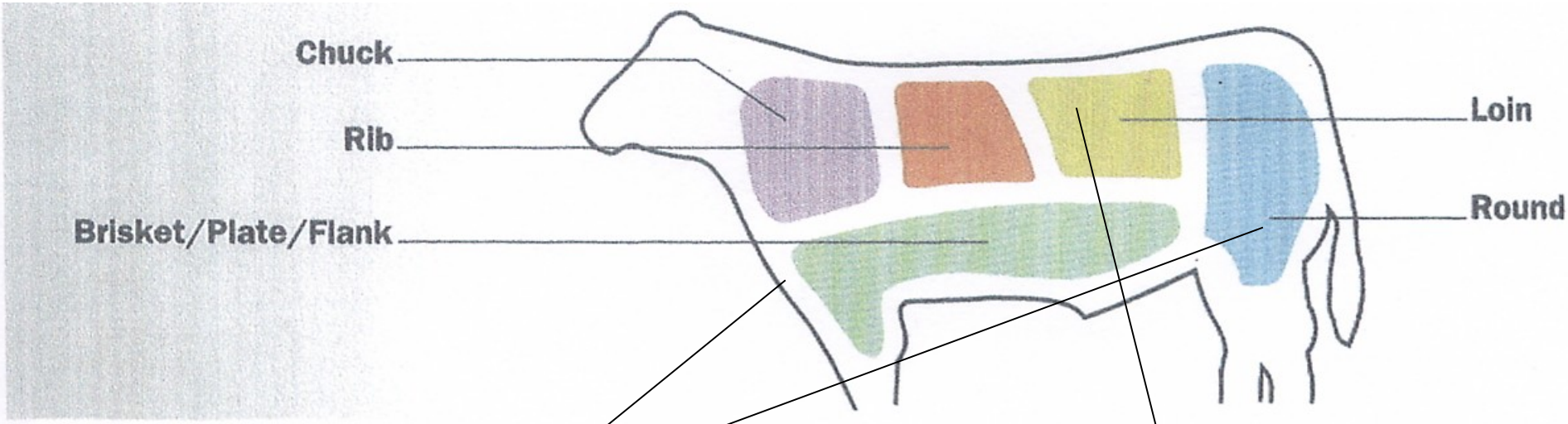
Four approaches:

1. Cut those muscle fibers! (Chop, grind, cube)

2. Mechanically manipulate muscle fibers – Pound Jaccard, tumble it.

3. Use enzymatic tenderizers. Inject or marinate th meat with natural compounds that break down pro into component amino acids.

4. Use functional tenderizers. Compounds which a to hold moisture at the cellular level to soften the collagen during cooking.



Where on the cow does that cut come from?

Does that affect how I should cook it?

Frequent Movement – Going to be tougher!

Just hanging Around – more tender!

COOKING IT RIGHT

Use moisture for less tender cuts – cook longer

Grill, broil or roast for more tender cuts

Use marinades on leaner meat to add flavor and moisture

A happy marriage - - choose the right cut and cook it right!

Check out this handout!

How many recipes are there in the Armed Forces Recipe Service for PDBT ? (And what the heck IS PDBT?)

Let’s talk Ground Beef!

USDA Ingredient Standard List and Labeling Requirements for Ground Beef Products

CATEGORY	INGREDIENTS									
	Skeletal Muscle	Skeletal Trimmings	Head Meat	Cheek Meat Limited to 25%	Added Beef Fat	PDCB*	PDBT**	Beef Hearts	& Fillers	Wat Binde Exten
Ground Chuck, Ground Round or Chopped Sirloin	⊘	⊘								
Ground Beef (also 100% Pure or Pure Ground Beef	⊘	⊘	⊘	√						
Hamburger	⊘	⊘	⊘	√	⊘					
Pure Beef Patties (also 100% pure Beef)	⊘	⊘	⊘	√	⊘					
Pure Beef Patty Mix	⊘	⊘	⊘	√	√					
Beef Patties	⊘	⊘	⊘	√	⊘	√	√	√	√	
Beef Patty Mix	⊘	⊘	⊘	√	√	√	√	√	√	

These ingredients Are not allowed in These product categories

*PDCB – Partially Defatted Chopped Beef

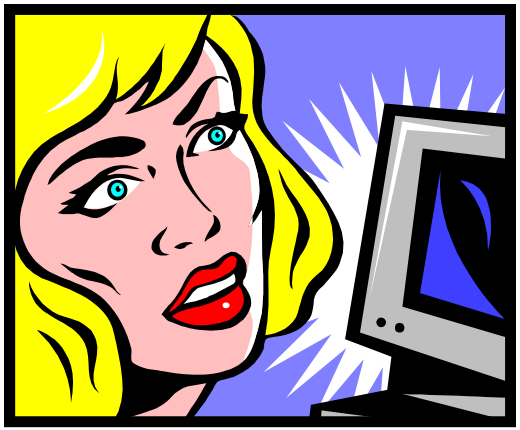
** Partially Defatted Beef Fatty Tissue

⊘ Ingredients allowed in these products which are NOT REQUIRED to be listed on the label

√ Ingredients allowed in the Products that MUST be Listed on the label

FAT CONTENT OF GROUND BEE

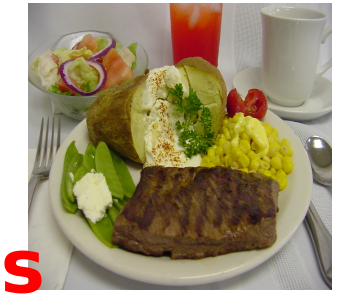
% Fat Raw	% Fat Cooked
25	22
22	18
18	16
15	15
10	12



Why does this happen ?????

Leaner Beef Cattle

Average roast has 30% less fat than just 10 years



Nutritional Advantages

What do you have to eat to ma[illegible] a Three ounce serving of beef

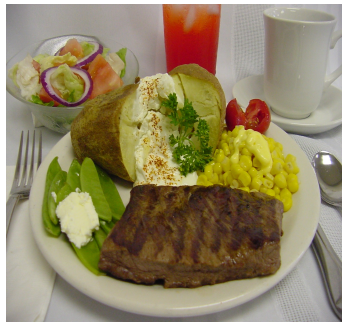
Zinc = 12 3.5 ounce cans of tuna C
7 6 ounce cans of t[illegible]

Iron = 3 cups of spinach

Riboflavin = 2 1/3 chicken breasts

Thiamin = 2 chicken breast

B12 = 7 chicken breasts



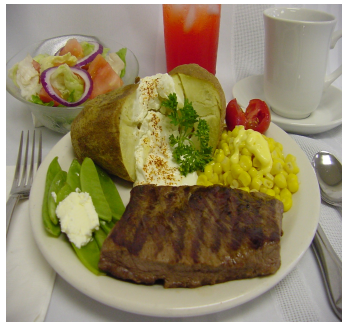
News Flash !

-Study conducted by:
- -Chicago Center for Clinical Research
- -John Hopkins University Lipid Clinic
- -University of Minnesota

- Findings, June 1999

-You can consume 6 ounces of lean red meat five to seven days a week as part of a heart-health diet and still lower cholesterol levels

News Flash !



-Choose leaner cuts / trim fat before cooking

-Cook it right – roast, broil, grill

-Government consumption surveys indicate just 52% of men and 25% of women eat recommended meat group levels daily

ENJOYING TODAY'S LEAN BEEF . . .

Did you know there are seven cuts
Of beef which contain less total
Fat than a chicken thigh?

3 oz skinless or trimmed, cooked portion

Chicken Thigh	9.3 g total fat
Tenderloin/filet	8.5 g total fat
Top loin/NY Strip	8.0 g total fat
Bottom Round	6.3 g total fat
Top Sirloin	6.3 g total fat
Round Tip	5.9 g total fat
Top Round	5.5 g total fat
Eye Round	4.2 g total fat
Chicken Breast	3.0 g total fat

KEEP IT CLEAN..

KEEP IT COLD ..

COOK IT PROPERLY !

Keep it CLEAN !

Wash your hands – hot soapy water, 20 seconds+ *

Don’t cross- contaminate –

keep raw meat away from other foods
sanitize cutting boards/knives before using on other f

* How do you KNOW 20 seconds have passed?

Keep it COLD !

Store properly wrapped beef in coldest part of refri

Temper meat under refrigeration

Store leftovers immediately in shallow, covered co

Keep refrigerator at 35 degrees F and freezer at 0 o
or below

Keep it COLD !

Storage Chart

Type of Beef	Refrigerator (35 F to 40 F)	Freezer (0 F or colder)
Steaks and roasts	3 to 4 days	6 to 12 months
Ground Beef	1 to 2 days	3 to 4 months
Cooked Beef (leftovers)	3 to 4 days	2 to 3 months

Cook it Properly !

Use instant read thermometer to verify cooking temperatures

Eliminate bacteria by cooking food properly

Ground Beef – 160 degrees F internal
Steaks and Roasts:
145 degrees F - medium rare
160 degrees F – medium
170 degrees F – well done
Reheat leftovers to minimum of 165 degree

Don’t do it !

- Press down on hamburgers with spatulas while cooking – affects juiciness !
- Stick the steaks – that is, use tongs, not fork or knives when turning steaks
- Cook steaks you’re going to put in the steam table for holding past medium rare / medium – they continue to cook on the line !

How does beef meet the Services' needs?

The Army:

- **A Ration: Minimum of two entrees; three desirabl**
- **Short order: hamburgers, cheeseburgers**
- **Deli Bar – Must include Roast Beef**
- **Mandates 85% lean ground beef; no fillers or exte**

How does beef meet the services' needs?

The Air Force:

- **Mandates use of 85% lean ground beef**
- **Cream ground beef – every night meal and breakfast**
- **Roast Beef for sandwiches**
- **Hamburgers and cheeseburgers for short order every day**

Other items: Meat balls for Cannonball Sandwich; salisbury s
Yakisoba, beef and spaghetti; steak & cheese subs; BBQ beef
Cubes; paprika beef; beef porcupines; country style steak;pe
Steak; beef and corn pie; Yankee pot roast; Swedish meatbal
Hungarian Goulash; Strip loin steak; stir fry beef; pot roast;
Beef cannelloni; chili mac; sloppy BBQ beef; meat loaf; beef l
Stroganoff; Italian Pepper Beef sandwich; Swiss steak; spagh
With meat sauce; lasagna; ribeye steak; Cajun meatloaf; Sau

Navy Requirements

Packaging for ships is important !

Using more pre-prepared items to reduce labor –
Calls them “Advanced Foods”

Menu Ideas

Use one cut in multiple ways !

Stretch it with starches, veggies and eggs

Think seasonal – match the method to the weather.

One cut – three times a day!

Breakfast	Lunch	
Ribeye Steak & eggs	Ribeye on Kaiser Roll au jus	Grilled Ri
Steak Omelet w/cheese	Wrap with steak strips, onions, and peppers	Steak F with green peppers and mushrooms
Steak & Egg Biscuit	Steak & Cheese Sub	Country
Creamed Ground Beef	Chili Con Carne	Salisbury Ste

Planning your menus – think beef !

QUANTUM FOODS

GREAT STEAKS!®

Why Quantum Foods ? Aren't all beef packers the same?

Facility security – from access to cameras; ID cards and biometric fingerprints

Quality Assurance – Staff on the floor at all times with hand-held computers

performing analyses

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Planning your menu ?
Think Beef !

Thinking Beef?
Think Quantum Foods !

Quantum Foods has an exceptional NAPA program and fully suppor
the training programs of DSCP and the Services. Let us support yo

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- Menu ideas
- Full support of the Quantum team

Need to shed a little light on your food program?

Call Joe Mancini at Quantum Foods/Quantum Culinary

1-800-334-6328
Cell: 1-630-514-7956
Fax: 1-630-679-2405

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